

Principles of Evolution Laboratory
BIOL 4261/5261
Fall 2023

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Office Hours: Tuesdays and Wednesdays from 8:00 a.m. – 9:30 a.m., or by appointment.

Lab Meeting Location: GAB 330D

Lab Meeting Time: Tuesdays from 2:00 p.m. – 4:50 p.m.

Schedule:

Following is a *tentative* schedule for the lab. This may be subject to change depending on availability of materials or other conditions. Labs will use the SimBio educational software, which will be available on the computers in GAB 330D. All labs need to be attended in person.

Indicated for each week are the date, subject we will cover, and points for the lab.

Date	Topic	Assignment	Points
August 22	NO LAB	NO LAB	0
August 29	Introductions / Evolutionary Evidence	Evolutionary Evidence (Workbook Lab)	10 (completed workbook) 40 (post-lab questions)
September 5	Natural Selection	Finches & Evolution (Workbook Lab)	10 (completed workbook) 40 (post-lab questions)
September 12	Phylogenetic Reconstruction	Domestication of Dogs (Workbook Lab)	10 (completed workbook) 40 (post-lab questions)
September 19	Mutation, Genetic Variation and Adaptation	Article Discussion (see Canvas for paper)	40

September 26	Hardy-Weinberg Equilibrium and Genetic Drift	Sickle-Cell Alleles (Tutorial Lab)	40
October 3	Genetic Drift	Genetic Drift and Bottlenecked Ferrets (Tutorial Lab)	40
October 10	Population Genetics	Mendelian Pigs (Tutorial Lab)	40
October 17	Natural Selection and Predation	Darwinian Snails (Tutorial Lab)	40
October 24	Sexual Selection	How the Guppy Got Its Spots (Workbook Lab)	10 (completed workbook) 40 (post-lab questions)
October 31	Evolution of Social Behavior	Article Discussion (see Canvas for paper)	40
November 7	Fossil Evidence	Video Discussion (see Canvas for link to “Inner Fish” video)	40
November 14	Species Concepts in Animals	Article Discussion (see Canvas for paper)	40
November 21	THANKSGIVING	NO LAB	
November 28	Neutral Evolution and Molecular Clocks	HIV Clock (Workbook Lab)	10 (completed workbook) 40 (post-lab questions)
December 5	Population Genetics, Coevolution, and Disease Evolution	How Diseases Spread (Tutorial Lab)	40
		TOTAL	610 (Undergrad); 630 (Grad)

Canvas:

Information pertaining to class will be posted on Canvas website at <https://unt.instructure.com>. This may include updates to labs, readings for discussion labs, supplemental readings or announcements. Your grades will be posted as well so you can monitor your progress over the semester. It is wise to make a habit of checking Canvas at least once a day so you do not miss important announcements.

Grades:

Each lab will have a series of post-lab questions or discussion questions worth 40 points, and Workbook Labs will have an additional 10 points per lab for turning in the completed workbook. Additionally, graduate students taking the lab will be required to lead one of the article discussions for 20 points. ***This equals 610 points total for the lab for undergraduates and 630 points total for graduate students. No labs can be dropped, and there will be no extra credit assignments; however, 10 bonus points will be awarded if at least 75% of registered students complete the course SPOT evaluations before the deadline. Additionally, grades for the lab will not be curved.*** The goal of this lab is to expand and develop the concepts introduced in lecture. Each lab session will be worth 40 points and points will be awarded based on completion of lab assignments, answering post-lab questions correctly, and participation in class discussions (for discussion-based labs). Some of the simulation modules come with associated workbooks (i.e., SimBio “Workbook Lab”) that will be filled out during the lab session and turned in for a grade (5 additional points per lab) at the end of class; ***these 10 points will be in addition to the post-lab questions.*** Other simulation labs will have questions that are answered in the context of the lab, and responses will be graded by the SimBio system automatically (i.e., SimBio “Tutorial Labs”). Labs will be graded primarily on completeness (i.e., did you fulfill the requirements of the lab) and on the accuracy of the answers. Ask questions if you are not clear on lab concepts.

In addition to the simulated labs, there will be several in-class article and video discussions that will take place, which will have graded discussion questions. These will be based on a film (i.e., shown during lab) or an article discussed during the lab. The articles will be made available on Canvas one week prior to the lab they are assigned, and you will be expected to read all assigned articles ***before coming to class.*** Discussion-based labs are a chance for you to develop your understanding of evolution through conversation and debate with your peers and the teaching assistant. If you are hesitant about voicing your opinion in class, be assured that your opinion and level of knowledge will be respected in this class (see General Lab Rules). ***However, discussion-based labs only work if students participate. If you choose not to participate in discussions, you will lose points on discussion days.***

Grade Scale:

Undergraduate Students (4261)			Graduate Students (5261)	
Points	Grade		Points	Grade
550 – 610	A		567 – 630	A
488 – 548	B		504 – 566	B
428 – 486	C		441 – 503	C
366 – 426	D		378 – 440	D
< 366	F		< 378	F

Attendance and Participation:

Attending class and being on time are your responsibilities. If you miss a class, you will get a zero for the day. Reasonable accommodation may be offered in actual cases of adversity, but you will have to prove your case to my satisfaction. Extreme tardiness is disruptive to the class, and I will deduct half (10) of the points for the day if you are late by 20 minutes or more. Try to get to class on time. While there will be no extra credit given for this class, your feedback is very important to the improvement of the lab. Therefore, we will offer 10 bonus points to all students *if at least 75% of the registered students complete the SPOT evaluations for the course before the deadline.*

Attendance During COVID:

Students are expected to attend all labs and to abide by the attendance policy established for the course. It is important that you communicate with your TA prior to being absent, so you, the TA, and the instructional team can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform the TA and instructional team if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community. If you are experiencing any symptoms of COVID (<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Team at COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure.

Make-Up Labs:

Due to the fact that these labs are done in-person using software installed in the GAB 330 computers, *there will be no make-up labs*; however, if you have a verifiable, accepted excuse

(e.g., illness, COVID-19, a death in the family) with a written note from a doctor or other professional and/or a positive COVID test, then we will allow you to drop a lab and your score will be calculated out of 40 less points (i.e., your final score will not including the lab you missed).

Incomplete (I) Grade:

Do not ask for an “Incomplete” grade unless you have a MAJOR life event that does not allow you to attend class. I will only give an incomplete grade under extraordinary circumstances. Please refer to the UNT policy regarding incomplete grades.

Academic Dishonesty:

Students caught cheating or plagiarizing will receive a "0" for that particular assignment or lab. Additionally, the incident will be reported to the Dean of Students, who may impose further penalty. According to the UNT catalog, the term "cheating" includes, but is not limited to: a.) use of any unauthorized assistance in taking quizzes, tests, or examinations; b.) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; c.) acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; d.) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s); or e.) any other act designed to give a student an unfair advantage. The term "plagiarism" includes, but is not limited to: the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment, and the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials. For more information, see: Academic Integrity Policy (PDF) (https://policy.unt.edu/sites/default/files/06.049_Standard%20Syllabus%20Policy%20Statements_supplement.pdf).

Disabilities Accommodation:

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during

their designated office hours to protect the privacy of the student. For additional information, refer to the Office of Disability Access website (<http://www.unt.edu/oda>). You may also contact ODA by phone at (940) 565-4323.

General Lab Rules:

All labs will take place in GAB 330D, which is a computer lab on the third floor of the General Academic Building. Your conduct in this class should conform to the UNT Code of Student Conduct (www.dos.unt.edu/conduct). That being said, we want to encourage a dialogue in this class and nothing stifles dialogue as quickly as disrespect for someone's opinion or level of knowledge. I expect you to **treat your fellow classmates as you want to be treated** while expressing your opinion. I want to encourage healthy discussion and even dissent, but disrespect for your fellow students in class discussions is unacceptable.

Acceptable Student Behavior:

Student behavior that interferes with an instructor's ability to conduct a lab or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classrooms, labs, discussion groups, field trips, etc. See <https://deanofstudents.unt.edu/conduct> for more information. Emergency Procedures and Notifications: Students will be notified by Eagle Alert if there is a campus closing that will impact a class; consequently, the calendar is subject to change. I will also update all students of changes via the course Canvas page. For more information, please refer to the Emergency Notifications and Procedures Policy (PDF) (https://policy.unt.edu/sites/default/files/06.049_Standard%20Syllabus%20Policy%20Statements_supplement.pdf).

Retention of Student Records:

Student records pertaining to this course are maintained in a secure location by the instructor. All records, such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Coursework completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment. You have a right to view your individual record; however, information about your records will not be divulged to other individuals without proper written consent. You are encouraged to review the Public Information Policy and F.E.R.P.A. (Family Educational Rights and Privacy Act) laws, as well as the university's policy in accordance with those mandates (see: <https://registrar.unt.edu/faculty/ferpa-andstudent-records>).